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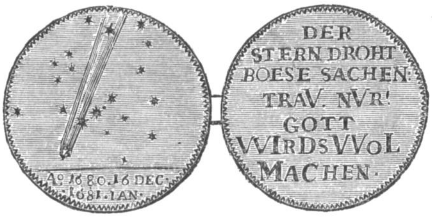
MEDAL OF THE GREAT COMET OF 1680.

I have in my possession a silver medal of the great comet of 1680, and by the courtesy of HENRY HOLT & Co., of New York, I am enabled to print a cut of it here. The medal was struck in the Low Countries, at some (unknown) monastery, probably while the comet was still visible, and it was distributed as a kind of amulet or charm against its evil effects. So far as I know, this medal and a companion-piece of the same design, and of about half the size (of the same time and place) are the only ones ever struck to commemorate an astronomical event (except, of course, medals distributed by scientific societies).



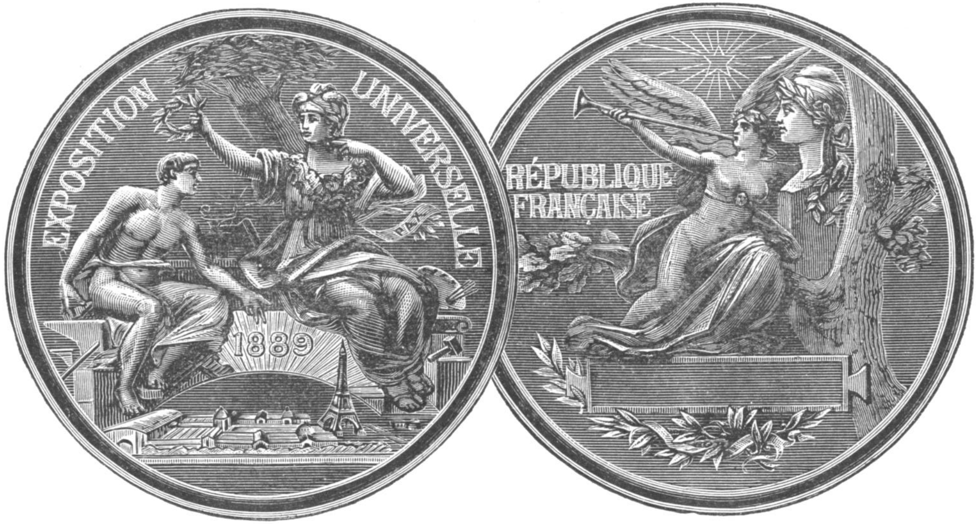
This great comet was discovered November 30, 1680, by KIRCH, and was observed until March 18, 1681. It will be noticed that the *obverse* bears two dates—Anno 1680, 16 December, and 1681, January. If I should hazard a guess as to these dates, I should assume December 16 to be the date when the comet was first seen at the monastery, and that the medal was struck in January, 1681. The *first* observation of HEVELIUS, in Dantzig, is dated December 2d, and it might well be that the comet was not seen at a particular place till the 16th.

At this time the comet was in the constellations *Aquila*, *Sagitta* and *Cygnus*. I find that I cannot accurately identify all the stars as laid down. The *reverse* side of the medal is taken up with an inscription which is at once rhythmic in form and consolatory in effect. A free translation is:

THIS STAR THREATENS EVIL THINGS: BUT TRUST!
GOD WILL TURN THESE TO GOOD.

This inscription contains also the year of the comet, implicitly. Collecting those letters which are written large, we have:

M - - - - - - - = 1000
D - - - - - - - - = 500
C - - - - - - - = 100
L - - - - - - - - = 50
VVVVVV - - - - - - = 30
I - - - - - - - - = 1
Total, - - - - - 1681


EXPOSITION UNIVERSELLE
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The mental image which we may form of the monkish artist, with his rhyming motto, his logogriph of 1681, his erroneous design of the star groups made indoors while the constellations were shining outside, may serve to recall to us something of the spirit of a time only two centuries ago. It must be remembered, too, that it was for this very comet of 1680 that Sir ISAAC NEWTON computed an orbit by his new methods, which showed that it revolved about the sun in a conic section, peacefully obedient to the law of gravitation. This medal, then, seems to mark a distinct division between two epochs in the history of astronomy (and in the history of human belief), and, therefore, to have a value quite apart from and above its numismatic rarity. E. S. H.

AWARD TO THE LICK OBSERVATORY AT THE PARIS EXPOSITION.

The Lick Observatory exhibited at the Paris Exposition a frame of photographic views of Mount Hamilton and some photographs of the moon taken with the great telescope. The negatives were made by Messrs. BURNHAM and BARNARD, and the smaller prints were also by them. The enlargements from these negatives were made by Mr. TABER of San Francisco. A gold medal was awarded to the Observatory for the whole exhibit. E. S. H.

"WEIGHING A DOUBLE STAR."

"In Professor E. C. PICKERING's third Annual Report of the DRAPER Memorial work, a very interesting fact is noted in connection with the spectrum of ζ *Ursæ Majoris*, of which more than seventy photographs have been taken. It has been found that the *K* line appears doubled at intervals of fifty-two days, beginning from March 27, 1887, and that for several days before and after the dates on which it appears doubled the line presents a hazy appearance. The other lines in the spectrum are much fainter, and, although well-shown when the *K* line is clearly defined, are seen with difficulty when it is hazy. Several of them are certainly double when the *K* line is double. * * * * * * *
As Professor PICKERING remarks, the only satisfactory explanation of this phenomenon is that the brighter component of this star must be a double star, having components nearly equal in brightness and too close to have been separated as yet visually, and that the time of revolution of the system is 104 days. When one component is approaching the earth, all the lines in its spectrum will be moved towards the blue, while all the lines in the spectrum of the other